

Ispol'zovaniye universal'nogo oborudovaniya dlya  
otdelochnykh rabot (Iz opyta turbomotornogo zavoda)

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enterprises also. The use of automatic polishing devices, the highly efficient fine profile grinding, special arrangements for surface finishing and other similar processes are described. The equipment described in this booklet could be manufactured in any plant. The first part of the monograph deals with the rough grinding and the second with finishing work. The booklet contains illustrations and schematic drawings of the equipment.

No. of References: None

Facilities: Turbo-Engine Plant.

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POLUYANOV, V. T.

PHASE I

TREASURE ISLAND BIBLIOGRAPHICAL REPORT

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BOOK

Call No.: AF645536

Author: POLUYANOV, V. T.

Full Title: USING THE UNIVERSAL MACHINE TOOL EQUIPMENT FOR FINISHING  
WOTK (From the Experience of the Turbo-Engine Plant)

Transliterated Title: Ispol'zovaniye universal'nogo oborudovaniya  
dlya otdelochnykh rabot (Iz opyta turbomotor-  
nogo zavoda)

PUBLISHING DATA

Originating Agency: None

Publishing House: State Scientific and Technical Publishing House of  
Machine-Building Literature (Mashgiz). Ural-Siberian Branch.

Date: 1954 No. pp.: 36 No. of copies: 3,000

Editorial Staff: None

PURPOSE: This monograph is recommended for publication by the Ural  
Scientific Research Technical Department of Machine-Building  
(Uralnitomash). It is intended for engineers and technicians.

TEXT DATA

Coverage: This brief booklet describes the innovations in polishing  
and finishing operations, introduced for the most part by the mech-  
anical engineers of the Urals Turbo-Engine Plant. According to the  
author, these new methods could be recommended for use in other

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Ispol'zovaniye universal'nogo oborudovaniya dlya  
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No. of References: None

Facilities: Turbo-Engine Plant.

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SMIRNOVA, M.G., inzh.; POLUYANOVA, L.I.

Manufacture of machine-coated chalk overlay paper with a single-process method. Bum.prom. 37 no.9:26-27 S '62. (MIRA 15:9)

1. Issledovatel'skaya laboratoriya Kamskogo kombinata (for Smirnova). 2. Zaveduyushchiy laboratoriyey bumazhnogo tsekha No.2 Kamskogo kombinata (for Poluyanova).  
(Paper)

POIUYANOVA, M.P.

Summation of the product of two series of numbers. Dokl. AN SSSR  
141 no.6:1306-1309 D '61. (MIRA 14:12)

1. Matematicheskiiy institut im. V.A.Steklova AN SSSR. Predstavleno  
akademikom A.N.Kolmogorovym.  
(Numbers, Theory of) (Series)

POLUYANOVA, M.F. (Moskva)

Summation of the product of two series using Voronoi's methods.  
Mat. sbor. 68 no.1:128-147 S '65. (MIRA 18:9)

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№. 4800

S/020/61/141/006/002/021  
C111/C333

AUTHOR: Poluyanova, M. F.

TITLE: Summation of the product of two series of numbers

PERIODICAL: Akademiya nauk SSSR, Doklady, v. 141, no. 6, 1961,  
1306-1309

TEXT: Let

$$\sum_{k=0}^n u_{n-k} \cdot v_k$$

be denoted by  $u_n \times v_n$ . Let  $\sum u_n = S | p_{n,k} |$  and  $\sum u_n = S(p_{n,k})$  denote the fact that the series  $\sum u_n$  is absolutely or ordinarily summable according to the method  $P = (p_{n,k})$  with the sum  $S$ . Let

$$\sum_{k=0}^n p_{n,k} U_k, \text{ where } U_k = \sum_{i=0}^k u_i, \text{ be denoted by } \sum u_n = O(1)(p_{n,k}).$$

The method defined by the matrix  $(p_{n-k} \cdot P_n^{-1})$ , where

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$P_n = p_0 + p_1 + \dots + p_n \neq 0$ , is denoted as method of Voronoy. The Cesaro method  $(C, r)$  results from this for  $p_n = (r+1)(r+2)\dots(r+n)(n!)^{-1}$ .

For given  $p_{n,i}$ ,  $q_{n,i}$ ,  $p_k$ ,  $q_k$  let the numbers  $k_n$ ,  $\bar{k}_n$ ,  $k_{m,n}$  and  $\bar{k}_{m,n}$  be defined by the relations:

$$\sum_{i=r}^n p_{n,i} k_{i,r} = \begin{cases} 1 & \text{for } r = n \\ 0 & \text{for } 0 \leq r < n; \end{cases} \quad \sum_{i=r}^n q_{n,i} \bar{k}_{i,r} = \begin{cases} 1 & \text{for } r = n, \\ 0 & \text{for } 0 \leq r < n; \end{cases}$$

$$\sum_{i=0}^n p_{n-i} k_i = \begin{cases} 1 & \text{for } n = 0 \\ 0 & \text{for } n \neq 0; \end{cases} \quad \sum_{i=0}^n q_{n-i} \bar{k}_i = \begin{cases} 1 & \text{for } n = 0 \\ 0 & \text{for } n \neq 0 \end{cases}$$

Assume that the methods  $(p_{n,k})$  and  $(q_{n,k})$  be fixed. Then let  $R^{(1)}$  denote the class of methods  $(r_{n,k})$  such that for arbitrary  $\sum u_n$ ,  $\sum v_n$  for

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which  $\sum u_n = U |p_{n,k}|$ ,  $\sum v_n = V(q_{n,k})$ , the relation  $\sum w_n = \sum u_n \times v_n = U \cdot V \cdot q^{-1}(r_{n,k})$  is satisfied, where  $q = \lim_{n \rightarrow \infty} \sum_{k=0}^n q_{n,k}$ .

Let  $R^{(2)}$  denote the class of methods  $(r_{n,k})$  such that for arbitrary  $\sum u_n, \sum v_n$ , for which  $\sum u_n = U |p_{n,k}|$ ,  $\sum v_n = O(1)(q_{n,k})$ , the relation  $\sum w_n = \sum u_n \times v_n = O(1)(r_{n,k})$  is satisfied.

Let  $R^{(3)}$  denote the class of methods  $(r_{n,k})$  such that for arbitrary  $\sum u_n, \sum v_n$ , for which  $\sum u_n = U |p_{n,k}|$ ,  $\sum v_n = V |q_{n,k}|$ , the relation  $\sum w_n = \sum u_n \times v_n = C |r_{n,k}|$  is satisfied, where  $C$  is any number.

Let  $R^{(4)}$  denote the class of methods  $(r_{n,k})$  such that for arbitrary  $\sum u_n, \sum v_n$ , for which  $\sum u_n = U(p_{n,k})$ ,  $\sum v_n = V(q_{n,k})$ , the relation

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$\sum w_n = \sum u_n \times v_n = U \cdot V(r_{n,k})$  is satisfied.

Theorem 1: In order that  $(r_{n,k}) \in R^{(1)}$ , it is necessary and sufficient that the following conditions are satisfied:

$$\sum_{j=0}^n |a_{i,j}^{(n)}| \leq M \text{ (for all } n \text{ and all } i); \lim_{n \rightarrow \infty} a_{i,j}^{(n)} = 0 \text{ (} i, j \text{ -- fixed)} (!)$$

$$\left| \sum_{l=k}^n c_{n,l} \right| \leq K \text{ (for all } k \text{ and } n); \quad (2)$$

$$\lim_{n \rightarrow \infty} c_{n,l} = 0 \text{ (for every } l); \lim_{n \rightarrow \infty} \sum_{k=0}^n c_{n,k} = 1$$

where

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$$a_{i,j}^{(n)} = \sum_{k=0}^n r_{n,k} \cdot \sum_{\alpha=0}^k \bar{k}_{k-\alpha,j} \sum_{r=i}^{\alpha} (k_{\alpha,r} - k_{\alpha-1,r}), (c_{n,1}) = c = R \cdot P^{-1} \quad (3)$$

Theorem 2: In order that  $(r_{n,k}) \in R^{(2)}$ , it is necessary and sufficient that

$$\sum_{j=0}^n \left| a_{i,j}^{(n)} \right| \leq M \quad (\text{for all } n \text{ and all } i),$$

where  $a_{i,j}^{(n)}$  is defined by (3).

Theorem 3: In order that  $(r_{n,k}) \in R^{(3)}$  it is necessary and sufficient that it holds

$$\sum_{n=0}^m \left| b_{i,j}^{(n)} \right| \leq H \quad (\text{for all } m \text{ and all } i, j) \quad (4)$$

where

$$b_{i,j}^{(n)} = \sum_{k=0}^n (r_{n,k} - r_{n-1,k}) \sum_{\alpha=0}^{k-j} \sum_{r=0}^{\alpha} \bar{k}_{\alpha+j,r+j} \sum_{t=0}^{k-\alpha-j-i} k_{k-\alpha-j,t+i} - k_{t+i} - k_{t+i-1},$$

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Theorem 4: In order that  $(r_{n,k}) \in R^{(4)}$ , it is sufficient that

$$\lim_{n \rightarrow \infty} \sum_{i=0}^n \sum_{j=0}^n d_{i,j}^{(n)} = 1, \quad \sum_{i=0}^n \sum_{j=0}^n |d_{i,j}^{(n)}| \leq M \text{ (for all } n); \quad \lim_{n \rightarrow \infty} d_{i,j}^{(n)} = 0 \quad (5)$$

(i, j -- fixed);

$$\lim_{n \rightarrow \infty} \sum_{i=0}^n |d_{i,j}^{(n)}| = 0 \text{ (for all } j); \quad \lim_{n \rightarrow \infty} \sum_{j=0}^n |d_{i,j}^{(n)}| = 0 \text{ (for all } i) \quad (6)$$

holds, where

$$d_{i,j}^{(n)} = \sum_{k=0}^n r_{n,k+i+j} \sum_{\alpha=0}^k (k_{k-\alpha+i,i} - k_{k-1-\alpha+i,i}) \bar{k}_{\alpha+j,j}.$$

Furthermore, if  $d_{i,j}^{(n)} \gg 0$ , then the conditions are also necessary.

Theorem 5: Let  $u_n, v_n, p_n, q_n$  ( $n \geq 0$ ) be real,  $p_n > 0, q_n > 0$ .

$$r_n = p_n \times q_n,$$

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$$P_{n-k} = O(R_n), \quad Q_{n-k} = O(R_n) \quad (\text{for every } k);$$

$$U_n^{(p)} = (p_n \times u_n \times 1) \cdot P_n^{-1}, \quad V_n^{(q)} = (q_n \times v_n \times 1) \cdot Q_n^{-1},$$

$$W_n^{(R)} = (r_n \times u_n \times v_n \times 1) \cdot (r_n \times 1)^{-1},$$

$$\lim_{n \rightarrow \infty} U_n^{(p)} = \underline{\alpha}, \quad \lim_{n \rightarrow \infty} U_n^{(p)} = \underline{\alpha}, \quad \lim_{n \rightarrow \infty} V_n^{(q)} = \underline{\beta}, \quad \lim_{n \rightarrow \infty} V_n^{(q)} = \underline{\beta}.$$

Then it holds the inequality

$$\min \{ \bar{\alpha} \bar{\beta}, \bar{\alpha} \underline{\beta}, \underline{\alpha} \bar{\beta}, \underline{\alpha} \underline{\beta} \} \leq \lim W_n^{(R)} \leq \overline{\lim W_n^{(R)}} \leq \max \{ \bar{\alpha} \bar{\beta}, \bar{\alpha} \underline{\beta}, \underline{\alpha} \bar{\beta}, \underline{\alpha} \underline{\beta} \}. \quad (8)$$

There are 4 non-Soviet-bloc references. The three references to English-language publications read as follows: M. Mears, Bull. Am. Math. Soc., 16, No. 12(1935); M. Mears, Ann. Math., 38, No.3(1937);

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S/020/61/141/006/002/021  
C111/C333

Summation of the product of two . . .

G. Hardy, Raskhodyashchiyesya ryady (Divergent series), M., 1951.

ASSOCIATION: Matematicheskiy institut im. V. A. Steklova Akademii  
nauk SSSR (Institute of Mathematics im. V. A. Steklov  
of the Academy of Sciences USSR)

PRESENTED: July 19, 1961, by A. N. Kolmogorov, Academician

SUBMITTED: July 19, 1961

Card 8/8

X

POLUYANOVA, M.T.

Fermentation in the processing of molasses sirup and grain mixtures.  
Spir. prom. 27 no.2:12-16 '61. (MIRA 14:4)  
(Alcohol) (Fermentation)

MALCHENKO, A.L.; POLUYANOVA, M.T.

Processing of sirup mixed with grain. Spirt.prom. 27  
no.4:8-11 '61. (MIRA 14:6)  
(Alcohol)  
(Fermentation)



POLUYANOVA, M.T.

Effect of the amount of yeasts on the fermentation of a mixture  
of molasses and grain. Spirt. prom. 26 no.8:17-21 '60. (MIRA 13:11)  
(Yeast) (Fermentation)

PYATETSKIY, Boris Grigor'yevich; POLUYANOV, V.T., red.vypuska; ALKSEYEV, G.P.,  
inzh., red.; BUSHUYEV, N.M., kand.tekhn.nauk; red.; GUTMAN, I.M., inzh.,  
red.; PICEAK, P.I., kand.tekhn.nauk, red.; POLKANOV, I.P., kand.tekhn.  
nauk, red.; DUGINA, N.A., tekhn.red.

[Grinding and lapping of motor vehicle parts] Pritirka i dovodka  
avtotraktornykh detalei. Izd.2. Moskva, Gos.nauchno-tekhn.izd-vo  
mashinostroit.lit-ry, 1959. 109 p. (MIRA 12:12)  
(Grinding and polishing) (Motorvehicles--Maintenance and repair)

POLUYANOV, V.Ya.

Combining professions on the "Moskva - Volga" type diesel engine vessels. Rech. transp. 16 no.4:8 Ap '57. (MLRA 10:5)

1. I shturman i I pomeshchnik mekhanika teplokhoda "Belomorkanal."  
(Ships--Manning) ("Moskva - Volga" (Ship))

POLUYANOVA, M. T.

Influence of nonsugars and salts of molasses sirup upon the  
amylolytic ferments of malt. Spirt.prom. 26 no.1:9-13  
'60. (MIRA 13:6)

(Molasses) (Malt)

USSR/Cultivated Plants - Potatoes. Vegetables. Melons. etc.

M.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15602

Author : Ye.G. Poluyanova

Inst : The Institute for Potato Farming.

Title : Ammonium Nitrate on Light Soils.  
(Azmiachnaya selitra na legkikh pochvakh).

Orig Pub : Kartoffel', 1957, No 1, 46-48

Abstract : At the Institute for Potato Farming on sandy soils during 1954-1956 a study was made of dosages, the times and methods of application of ammonium nitrate on potatoes. A plot fertilized with 20 tons of manure plus  $P_{60}K_{60}$  served as the ground. The most lasting effect in all these years was shown by two methods of applying the nitrate: the base application in a dosage of  $N_{30}$  and local application in a dose of  $N_{15}$ .

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POLUYANOVA, Ye. G. Cand Agr Sci -- (diss) "The Effect of Various  
Doses and Periods of Application of Nitrogen Fertilizers on the Growth  
and <sup>yield</sup> ~~Harvest~~ of <sup>so</sup> ~~the~~ Potato on ~~the~~ Light Soils of the Non-Chernozem  
Belt." Mos, 1957. 15 pp 20 cm. (Min of Chemical Industry USSR,  
Scientific Inst. <sup>for</sup> ~~on~~ Fertilizers and Insectofungicides im Ya. V.  
Samoylov), 110 copies (KL, 28-57, 25 111)

5  
- 2A -

SHTOKMAN, I.G., doktor tekhn.nauk; MEL'NIKOV, T.V., inzh.; POLUYANSKIY, S.A.,  
gornyy inzhener

Experimental research on increasing the speed of the chains of  
scraper conveyers. Vop. rud. transp. no.2:9-14 1957.

(MIRA 14:4)

1. Dnepropetrovskiy gornyy institut (for Shtokman). 2. Khar'kovskiy  
zavod "Svet shakhtera" (for Mel'nikov). 3. Institut gornogo  
dela AN USSR (for Poluyanskiy).

(Conveying machinery--Testing)

POLUYANSKIY, S.A., kand.tekhn.nauk; DIKHTYAR, A.A., inzh.

Dynamics of the working part of loaders with the bucket on a  
rocker arm. Vop. rud. transp. no.7:300-305 '63. (MIRA 16:9)

1. Otdeleniye gornorudnykh problem Instituta elektrotekhniki  
AN UkrSSR.

(Mining machinery--Testing)



POLUYANSKIY, S.A., inzh.

Studying the dynamics of the working part of the EPM-1 electric loader. Vop. rud. transp. no.5:406-420 '61. (MIRA 16:7)

1. Institut gornogo dela AN UkrSSR.  
(Mining machinery—Electric driving)

BILICHENKO, N.Ya., kand.tekhn.nauk; POLUYANSKIY, S.A., kand.tekhn.nauk;  
BAKHOLDIN, B.A., kand.tekhn.nauk; LESKEVICH, V.I., inzh.

Experimental studies of a heavy-duty belt conveyor at the Krivoy  
Rog Southern Mining and Ore Dressing Combine. Vop. rud. transp.  
no.7:45-57 '63. (MIRA 16:9)

1. Dnepropetrovskiy gornyy institut (for Bilichenko). 2. Otdeleniye  
gornorudnykh problem Instituta elektrotekhniki AN UkrSSR (for  
Leskevich).

(Krivoy Rog Basin--Conveying machinery--Testing)

BABENKO, S.F., inzh.; SHLEZING, M.Sh., inzh.; POLUYANSKIY, S.A., kand.  
tekhn.nauk; DIKHTYAR, A.A., inzh.; KUKHARENKO, V.P., inzh.

Study of the 2PPN-1 rock loader. Vop. rud. transp. no.7:288-300  
'63. (MIRA 16:9)

1. Krivorozhskiy zavod gornogo oborudovaniya "Kommunist" (for Babenko, Shlezing). 2. Otdeleniye gornorudnykh problem Instituta elektrotekhniki AN UkrSSR (for Poluyanskiy, Dikhtyar, Kukharenko).  
(Mining machinery--Testing)

GONTAR', N.V., kand.tekhn.nauk; POLUYANSKIY, S.A., gornyy inzhener

Experimental research on stresses on the pin in the driving  
disc of the gathering head of the C-153 coal-loading machine.  
Vop. rud. transp. no.2:393-397 1957. (MIRA 14:4)

1. Novocherkasskiy politekhnicheskii institut (for Gontar').
2. Institut gornogo dela AN USSR (for Poluyanskiy).  
(Coal mining machinery--Testing)

POLUYANSKIY, S.A.

USSR/ Engineering - Dynamic tests

Card 1/1 Pub. 128 - 4/26

Authors : Shtokman, I. G.; Murzin, V. A.; and Poluyanskiy, S. A.

Title : An experimental determination of the speed of elastic wave propagation in conveyer chains

Periodical : Vest. mash. 2, 26-27, Feb 1954

Abstract : A description is presented of methods for a dynamic determination of elastic wave propagation in conveyer chains employed in mine shafts. Diagrams and drawings depicting the individual tests are given. Three USSR references (1950-1951).

Institution : .....

Submitted : .....

POLUYANSKIY, S.A.

VESTNIK MASHINOSTROYENIYA, (ENGINEERING JOURNAL)  
Vol 35, No. 7, July, 1955

On the existence of dynamic loads in the chains of conveyor installations.  
Report on the visualization and causes of impact and fluctuating loads,  
using strain gauges and oscillographic recording contains critical  
comments on the views expressed in a paper by V. A. Kruzhkov on the  
same subject (same journal, 1953, No. 10).  
By I. G. Shtokman, V. A. Murzin and S. A. Poluyanskiy ... 16

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POLUYANSKIY, S. A.

Cand Tech Sci - (diss) "Study of the dynamics of the performance of operating member of mining loading machines using shovels at the re-rolling /perekatyvayushchysya/ lever." Dnepropetrovsk, 1961. 16 pp; (Ministry of Higher and Secondary Specialist Education Ukrainian SSR, Dnep Order of Labor Red Banner Mining Institution imeni Artem); 175 copies; price not given; (KL, 7-61 sup, 243)

MURZIN, V.A., kand.tekhn.nauk; BILICHENKO, N.Ya., kand.tekhn.nauk; POLUYANSKIY,  
S.A., inzh.

Research on conveyors in the mines of the Krivoy Rog Basin. Vop. rud.  
transp. no.4:200-209 '60. (MIRA 14:3)

1. Dnepropetrovskiy gornyy intitut im. Artama (for Murzin, Bilichenko).
2. Institut gornogo dela AN USSR (for Poluyanskiy).  
(Krivoy Rog Basin—Conveying machinery)



POLYAKOV, N.S.; POLUYANSKIY, S.A., inzh. .

Relation between the capacity of a car and the efficiency of a loader.  
Vop.rud. transp. no.4:361-367 '60. (MIRA 14:3)

1. Institut gornogo dela AN USSR (for Polyakov, Poluyanskiy).
2. Chlen-korrespondent AN USSR (for Polyakov).  
(Ore handling—Equipment and supplies)  
(Mine railroads)

KUZNETSOV, B.A., kand.tekhn.nauk; POLUYANSKIY, S.A., inzh.

Dynamics of the operating assembly of a loader with a rocker arm.  
Vop.rud. transp. no.4:368-378 '60. (MIRA 14:3)

1. Dnepropetrovskiy gornyy institut im. Artema (for Kuznetsov). 2. Institut gornogo dela AN USSR (for Poluyanskiy).  
(Ore handling—Equipment and supplies)

POIUYANSKIY, S.A., inzh.

Research on the performance of a loading machine with a rocker arm.  
Vop.rud. transp. no.4:379-389 '60. (MIRA 14:3)

1. Institut gornogo dela AN USSR.  
(Ore handling—Equipment and supplies)

10-000000-1-2  
SHTOKMAN, I.G., kandidat tekhnicheskikh nauk; MURZIN, V.A., kandidat  
tekhnicheskikh nauk; POLUYANSKIY, S.A., inzhener

Dynamic stress manifestations in conveyor traction mechanisms.  
Vest.mash.35 no.7:16-18 J1'55. (MLRA 8:10)  
(Conveying machinery)

S/145/60/000/006/005/007  
A161/A026

AUTHORS: Shabashov, S.P.; Candidate of Technical Sciences; Poluyatova, L.V.  
Engineer

TITLE: Investigation of the Machining Properties of the S-15 Alloy

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. - Mashinostroyeniye, 1960,  
No. 6, pp. 129 - 138

TEXT: The C-15 (S-15) alloy according to GOST 2233-43 Standard belongs to the ferrosilides with 14 ± 18% Si, and is used by the Sverdlovskiy nasosnyy zavod (Sverdlovsk Pump Works). The composition of the S-15 is: (in %) 0.5 ± 0.8 C; 14.5 ± 16.0 Si; 0.3 ± 0.8 Mn; up to 0.1 P; up to 0.07S. The article gives information on machining tests with the alloy, i.e. internal grinding, turning and anode-mechanical grinding (in electrolyte). The best grindingwheel material proved to be green "K3" (KZ) silicon carbide bound with ceramic binder and having "CM<sub>1</sub>" (SM<sub>1</sub>) hardness and "46 + 60" grain (was compared with electrocorundum). The interdependence between metal removal rate (Q in cm<sup>3</sup>/min), grinding wheel wear (ΔQ in cm<sup>3</sup>/min) and wheel feed was determined. Formulas were derived to calculate the specific wheel wear  $\Delta Q_{\text{wheel}} = \frac{0.024 \cdot t^{1.5} \cdot S^{0.8} \cdot v_{\text{wheel}}^{1.8}}{v_{\text{wheel}}^{0.8} \cdot \text{work cm}^3/\text{min}}$  ✓

Card 1/2

POLUYEKTOV, N.S.

Flame photometry. Zav.lab.no.9:1045-1056 '55. (MLRA 9:1)

(Photometry)

POLUYKO, K.I., assistant

Use of placental transplants in the surgical treatment of urogenital and entero-vaginal fistulae. Akush.i gin. no.4:92-97  
'61. (MIRA 15:5)

1. Iz kafedry akusherstva i ginekologii (i. o. zav. - dotsent  
I.N. Yeziyeshvili) Krasnoyarskogo meditsinskogo instituta.  
(PLACENTA--TRANSPLANTATION)

POLUZEROV, N.A.

Correlation of Pb, Zn, B, Mo, Ag, Mn and T concentrations in  
plants, rocks and Sierozems. Izv. AN Kazak SSR. Ser. biol.  
nauk 3 no.1:28-37 Ja-F '65. (MIRA 18:5)



POLUZEROV, N.A.; PUTRO, L.A.

Nature of the loss of matter in preparing soils for the  
separation of silt. Izv. AN Kazakh. SSR. Ser. biol. nauk  
3 no.6:13-17 N-D '65. (MIRA 18:12)

POLUZADOV, N.B.

Sable of Sverdlovsk Province. Zap. Ural otd. Geog. ob-va SSSR  
no.2:159-164 '55. (MIRA 16:12)

S/007/60/000/004/003/005  
B002/B055

AUTHORS: Ginzburg, I. I., Mukanov, K. M., Poluzerov, N. P.  
TITLE: Copper and lead in the soil of the Uspenskoye copper deposits  
in Central Kazakhstan  
PERIODICAL: Geokhimiya, no. 4, 1960, 339-344

TEXT: The Uspenskoye deposit lies in volcanic and sedimentary Upper Devonian rocks; the mineralization is typically monometallic (chalcopyrite-bornite formation). Lead is present only in very insignificant quantities. The soil east of the deposit was studied. 42 samples taken from 5 sections and 3 different horizons were analyzed spectroscopically for lead and copper. The measuring values for part of the samples were checked by determination with dithizone. The soil investigated is partly crustal saline soil and partly chestnut-brown or pale chestnut-brown soil. Copper was detected in all the samples in quantities between 0.003 and 0.008%, which is distinctly above the average. The difference between the copper content of the two types of soil is insignificant. At an average, the

Card 1/4

Copper and lead in the soil...

S/007/60/000/004/003/005  
B002/B055

crustal saline soil contains 0.0050% and the chestnut-brown soil 0.0053%. The horizons show an increase in copper content from the lowest horizon C to the highest horizon A. This is assumedly related to the fact that the higher horizons are richer in humus substance. Lead was only found in 15 of the 42 samples, in percentages varying between 0.005 and 0.008. This is due to the low lead content of the deposit and the slight ability of lead to migrate under arid conditions. The lead content was approximately equal in all the horizons. The isoconcentration lines for copper and lead are illustrated in Figs. 2a and 2b, respectively. The following persons are mentioned: A. P. Vinogradov, S. I. Sinyakova, D. P. Malyuga and A. I. Makarova. There are 4 figures, 2 tables, and 4 Soviet-bloc references. ✓

ASSOCIATION: Institut geologii rudnykh mestorozhdeniy, petrografii, mineralologii i geokhimii AN SSSR, Moskva (Institute of Geology of Mineral Deposits, Petrography and Geochemistry, Academy of Sciences USSR, Moscow)

SUBMITTED: November 19, 1959

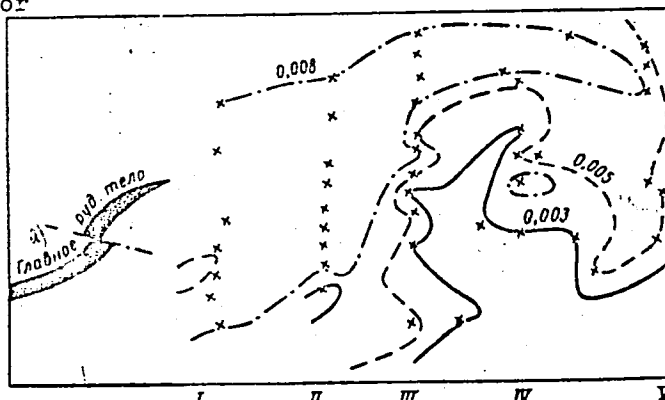
Card 2/4

Copper and lead in the soil...

S/007/60/000/004/003/005  
B002/B055

Legend to Fig. 2a:

- 1 - investigated soil sections;
- 2 - isoconcentration lines for 0.003% Cu,
- 3 - the same for 0.005% Cu,
- 4 - the same for 0.008% Cu,
- a) main ore body



Card 3/4

Card 4/4

POLUZKHAROV, M. N.

"Electrodeposition of metals on steel and electrodiffusion of hydrogen in it"

Report presented at the Intervuz Conference on Electrodeposition of Nonferrous Metals, Ural Polytechnical Institute im S. M. Kirov, Sverdlovsk, held from 27-30 May 1963.

(Reported in Tsvetnyye Metally, No. 10, 1963, pp. 82-84)  
JPRS 24,651 19 May 64

L 44421-66 EWT(m)/EWP(w)/EWP(v)/T/EWP(t)/ETI/EWP(k) IJP(c) JD/HM/HW

ACC NR: AP6019826 (A) SOURCE CODE: UR/0095/66/000/002/0016/0019

41

39

3

AUTHOR: Mazel', A. G.; Rogova, Ye. M.; Poluz'yan, Zh. A.

ORG: none

TITLE: Efficiency of pipeline welds made at low temperature

SOURCE: Stroitel'stvo turboprovodov, no. 2, 1966, 16-19

TOPIC TAGS: pipeline, pipe, pipeline welding/UONI-13/55 electrode, /15G2S steel, 10G2SB steel

ABSTRACT: The authors analyze in detail the effects of welding at subzero temperatures on the efficiency of pipeline welds. Modern pipeline steels contain a large amount of manganese, silicon and, occasionally, carbon, which pass from the parent metal into the weld. The influence of the above elements on the efficiency of welds at low temperatures was studied, using 15G2S and 10G2SB steel pipes. The chemical content of the pipeline steels is shown in a table presented in the original article. Experiments were made using both manual and

Card 1/2

UDC: 621.643.411.4

L 16920-63    EPR/EWT(1)/BDS/ES(w)-2    AFFTC/ASD/IJP(C)/SSD    Ps-4/Pab-4    WW  
S/076/63/037/004/010/029

AUTHOR:    Polvektov, N. S., Ovchar, L. A. (Odessa)    68

TITLE:    Effect of an electric field on the radiation intensity of elements  
in a flame    ↑

PERIODICAL:    Zhurnal fizicheskoy khimii, V. 37, No. 4, 1963, 817-820

TEXT:    The article covers the results of tests which were designed to confirm the lowering in the intensity of resonance radiation resulting from a decrease in the partial pressure of non-disassociated atoms. The flame source was mixtures of acetylene and propane-butane with air. Elements tested included K, Rb, Cs, Li, Na, Ca, Sr, La, Eu, and Y. Precathodic fading of the intensity of the resonance lines of alkaline metals took place under the action of an electric field. This was observed in the case of the easily ionizable metals of potassium, rubidium, and cesium and was most strongly manifested in hot flames at low concentrations. The extent of the fading depended on the degree of ionization of the metal atoms which are present in the flame. There are 8 figures and 1 table.

ASSOCIATION:    Institut obshchey i neorganicheskoy khimii AN USSR -- laboratorii v  
Odessa (Institute of General and Inorganic Chemistry of the Academy  
of Sciences, Ukrainian SSR--laboratories in Odessa)

SUBMITTED:    April 13, 1962  
Card 1/1    V



POLYACHEK, Ya.

Diet dishes from corn. Obshchestv. pit. no.11:27-29 N '61.

(MIRA 15:2)

(Cookery for the sick)

(Cookery(Corn))

POLYACHEK, Yakov Grigor'yevich

[Vitamins in children's diet] Vitaminy v pitanii detei. Moskva,  
Medgiz, 1959. 30 p. (MIRA 13:12)  
(CHILDREN--NUTRITION) (VITAMINS)

L 16159-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Pg-4 WH/EM  
ACCESSION NR: AP4046128 S/0068/64/000/009/0040/0044

AUTHOR: Fronchek, K.; Tencha, T.; Polyachek, Ye.

TITLE: Copolymerization of unsaturated hydrocarbons of the indenecoumarone  
fraction by means of sulfuric acid

SOURCE: Koks i khimiya, no. 9, 1964, 40-44

TOPIC TAGS: indene coumarone crude, heavy naphtha, coal tar fraction, couma-  
rone indene copolymerization, sulfuric acid copolymerization catalyst, prepoly-  
merization, dicyclopentadiene

ABSTRACT: The feasibility and economics of using the 150-200C indene-couma-  
rone fraction obtained from the phenol fraction from coal or from heavy naphtha as  
the crude for resin preparation by sulfuric acid catalysed copolymerization was  
investigated. The monomer content in the crudes from the two sources was simi-  
lar except for the styrene whose content in the heavy naphtha crude was about  
four times that in the coal-phenol fraction: indene comprised over 50% of the total

Card 1/3

L 16159-65

ACCESSION NR: AP4046128

polymerisable material, coumarone over 25%, styrene 10 and 2.5%, and the methylindene and methylcoumarone homologs the balance. It was shown that high grade resins could be obtained in yields well above 80% from this raw material although the reactivity of the unsaturated compounds in the copolymerization differed somewhat. Indene and its methyl homolog were the most reactive; the methyl groups in the indene and coumarone lowered their reactivity slightly. Styrene lowered the softening point of the resin (10% styrene lowered the softening point 30 degrees), simultaneously increased resin yield and did not affect resin color. When a high softening point was required it was necessary to use a styrene-free fraction boiling above 160C, preferably the indene fraction (176-181C). Separation of the indene and coumarone methyl homologs was not necessary since they did not affect the softening point or lower resin color stability. If the fraction did not contain dicyclopentadiene prepolymerization was not necessary; it only caused loss of the indene. Orig. art. has: 2 figures and 5 tables.

ASSOCIATION: Pol'sha, Blyakhovna, Institut osnovnogo organicheskogo sinteza  
(Institute of Basic Organic Synthesis)

Card 2/3

L 16159-65

ACCESSION NR: AP4046120

SUBMITTED: 00

ENCL: 00

SUB CODE: GC, OC

NO REF SOV: 002

OTHER: 009

Card 3/3

POLYACHENKO, A. L.

Theory of unsteady diffusion of thermal neutrons in a two-layer infinite medium with cylindrical interface. Izv. AN SSSR-Ser. geofiz. no. 4:532-547 Ap '64. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut yadernoy geofiziki i geokhimii.

ACCESSION NR: AT4001510

S/3035/63/000/000/0044/0079

AUTHOR: Polyachenko, A. L.

TITLE: Solution of the pulsed neutron logging boundary problem

SOURCE: Yadernaya geofizika. Vy\*pusk 1963 g. Moscow, 1963, 44-79

TOPIC TAGS: geophysics, geophysical prospecting, neutron logging, pulsed neutron logging, pulsed neutron logging, computation

ABSTRACT: The boundary-value equations involved in the solution of the pulsed neutron logging problem are listed and it is shown rigorously that the method of integral transformations can be used to solve this problem to advantage under most general assumptions concerning the sources and physical parameters of both media for an arbitrary time. An exact solution of the problem for arbitrary time is then obtained in a form convenient for numerical calculations and the dependence of the structure of this solution on the relations between the signs of the physical parameters of the internal and external media is determined. The regions of applicability of the theory developed are governed by the limits of applicability of the

Card 1/2

ACCESSION NR: AT400151.0

single-group theory of nonstationary diffusion, which is more general than other diffusion theories. The analytic solutions obtained serve as a starting point for further detailed analysis of the distribution of the propagating wave in the cases of most importance to the pulsed neutron logging, such as the asymptotic behavior with respect to time. It extends the deductions of a companion paper (A. L. Polyachenko and S. A. Kantor, Yadernaya geofizika, 1963, 80--117), to cover a large class of distributed sources, including those realized in practice. Orig. art. has: 152 formulas and 3 figures.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 30Nov63

ENCL: 00

SUB CODE: AS

NO REF SOV: 007

OTHER: 002

Card 2/2



SOKOLOV, G.F., inzh.; POLYACHENKO, A.V., kand.tekhn.nauk

Characteristics of the built-up welding process with weaving  
arc and ribbon electrodes. Svar. proizvod. no.12:8-11 D '61.  
(MIRA 14:12)

1. Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy  
tekhnologicheskiiy institut.

(Electric welding)

(Machinery -Maintenance and repair)

ARTEM'YEV, Yu.N., kand. tekhn. nauk; ASTVATSATUROV, G.G., inzh.;  
 BARABANOV, V.Ye., inzh.; BAFYKOV, G.A., inzh.; BISNOVATYY, S.I.,  
 inzh.; GALAYEVA, L.M., inzh.; GAL'PERIN, A.S., kand. tekhn. nauk;  
 GAL'CHENKO, I.I., inzh.; GONCHAR, I.S., kand. tekhn. nauk;  
 DEGTYAREV, I.L., kand. tekhn. nauk; DYADYUSHKO, V.P., inzh.;  
 YERMAKOV, I.N., inzh.; ZHOTKEVICH, T.S., inzh.; ZUSMANOVICH, G.G.,  
 inzh.; KAZAKOV, V.K., inzh.; KOZLOV, A.M., inzh.; KOROLEV, N.A.,  
 inzh.; KRIVENKO, P.M., kand. tekhn. nauk; LAPITSKIY, M.A., inzh.;  
 LEBEDEV, K.S., inzh.; LIBERMAN, A.R., inzh.; LIVSHITS, L.G., kand.  
 tekhn. nauk; LOSEV, V.N., inzh.; LUKANOV, M.A., inzh.; LYUBCHENKO,  
 A.M., inzh.; MAVEDOV, A.M., kand. tekhn. nauk; MATVEYEV, V.A.,  
 inzh.; ORANSKIY, N.N., inzh.; POLYACHENKO, A.V., kand. tekhn. nauk;  
 POPOV, V.P., kand. tekhn. nauk; PUSTOVALOV, I.I., inzh.;  
 PYTCHENKO, P.I., inzh.; PYATETSKIY, B.G., inzh.; RABOCHIY, L.G.,  
 kand. tekhn. nauk; ROL'BIN, Ye.M., inzh.; SELIVANOV, A.I., doktor  
 tekhn. nauk; SEMENOV, V.M., inzh.; SKOROKHOD, I.I., inzh.; SLABODCHIKOV,  
 V.I., inzh.; STORCHAK, I.M., inzh.; STRADYMOV, F.Ya., kand. tekhn.  
 nauk; SUKHINA, N.V., inzh.; TIMOFEYEV, N.D., inzh.; FEDOSOV, I.M.,  
 kand. tekhn. nauk; FILATOV, A.G., inzh.; KHODOV, L.P., inzh.;  
 KHROMETSKIY, P.A., inzh.; TSVETKOV, V.S., inzh.; TSEYTLIN, B.Ye.,  
 inzh.; SHARAGIN, A.M., inzh.; CHISTYAKOV, V.D., inzh.; BUD'KO, V.A.,  
 red.; PESTRYAKOV, A.I., red.; GUREVICH, M.M., tekhn. red.

(Continued on next card)

ARTEM'YEV, Yu.N.--- (continued) Card 2.

[Manual on the repair of machinery and tractors] Spravochnik po  
remontu mashinno-traktornogo parka. Pod red. A.I.Selivanova.  
Moskva, Sel'khozizdat. Vols.1-2. 1962. (MIRA 15:6)  
(Agricultural machinery--Maintenance and repair)  
(Tractors--Maintenance and repair)

LIVSHITS, L.G., kand. tekhn. nauk; POLYACHENKO, A.V., kand. tekhn. nauk; DMITRIYEV, I.N., red.; MAKHOVA, N.N., tekhn. red.; SOKOLOVA, N.N., tekhn. red.

[Reconditioning motor-vehicle and tractor parts] Vosstanovlenie avtotraktornykh detalei. Moskva, Sel'khozizdat, 1962. 319 p. (MIRA 15:10)

1. Gosudarstvennyy vsesoyuznyy nauchno-issledovatel'skiy tekhnologicheskii institut remonta i ekspluatatsii mashinno-traktornogo parka (for Livshits, Polyachenko).

(Tractors--Maintenance and repair)

(Motor vehicles--Maintenance and repair)

SIPENKO, S.I., inzh.; POLYACHENKO, M.N., land. tekhn. nauk

Crystallization centers of saccharose. Pishch. prom.  
no.1:19-26 '65. (MIRA 18:11)

L 26674-66 EWT(d)/EWP(h)/EWP(l)

ACC NR: AP6009551

SOURCE CODE: UR/0413/66/000/005/0093/0094

AUTHORS: Amel'kovich, I. I.; Artamonov, Yu. G.; Dyatlov, Ye. S.; Magirovskiy, N. P.; Novozhilov, Yu. I.; Orlov, S. F.; Pikkuvirta, P. O.; Podkovyrin, A. I.; Polyachenko, V. A.; Senchenko, L. P.; Fedoseyev, O. V.; Shubin, L. V.

ORG: none

TITLE: Machine for gathering, hauling, and transportation of felled trees. Class 45, No. 179539 [announced by Onega Tractor Factory (Onezhskiy traktorny zavod); Leningrad Kirov Factory (Leningradskiy Kirovskiy zavod); Leningrad Forestry Technical Academy im. S. M. Kirov (Leningradskaya lesotekhnicheskaya akademiya)]

SOURCE: Izobreteniya, promyshlennyye obrashtsy, tovarnyye znaki, no. 5, 1966, 93-94

TOPIC TAGS: tractor, forestry, forestry product

ABSTRACT: This Author Certificate presents a machine for hauling, gathering, and transporting felled trees, consisting of a mono-axle tractor, semitrailer with steering axle connected with the tractor by a universal joint, and a hoist. To insure a continuous pick-up of felled trees and their loading on the machine, the latter is equipped with a movable boom, to the end of which is attached a pincer clamp. To improve the maneuverability of the machine, the movable boom is mounted on the tractor frame and the pick-up device on the frame of the semi-trailer. To

Cord 1/2

UDC: 629.114.4:634.0.377.4

L 26674-66

ACC NR: AP6009551

prevent damage to the movable parts, the latter are protected by means of pipe fastened above the saddle hitch device. To facilitate the loading of large packets of trees, a pulley is attached to the protective pipe (see Fig. 1).

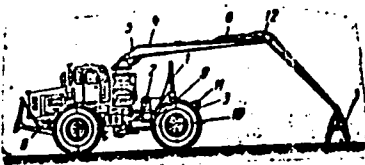


Fig. 1. 1 - pick-up assembly; 2 - hoist;  
3 - saddle-hitch device; 4 - movable boom;  
5 and 6 - power cylinders; 7 - pincer clamp;  
8 - mono-axle tractor; 9 - semitrailer;  
10 - steering axle of semitrailer; 11 - pro-  
tective pipe; 12 - pulley.

Orig. art. has: 1 diagram.

SUB CODE: 13,02/ SUBM DATE: 15Jun64

Card 2/2 BLG

L 14067-66 EWT(d)/PSS-2

ACC NR: AP6002406

(A)

SOURCE CODE: UR/0103/65/026/012/2260/2264

50

AUTHOR: Kravtsov, N. V. (Moscow); Polyachenko, V. L. (Moscow)

B

ORG: None

TITLE: Error dispersion in measuring frequency and phase of a sinusoidal signal in the presence of narrow-band noise

8,44

SOURCE: Avtomatika i telemekhanika, v. 26, no. 12, 1965, 2260-2264

TOPIC TAGS: signal to noise ratio, signal noise separation, signal frequency, phase measurement, error prediction

ABSTRACT: In the solution of some practical problems, there is sometimes a need for the precise determination of the frequency of a sinusoidal signal in the presence of narrow-band noise. It is, therefore, interesting to perform a theoretical evaluation of the dependence of the dispersion of the error of measurement on the value of the signal-noise ratio and the measurement time interval. This note presents a method for the construction of the appropriate formulas based on the simple physical analogy with unidimensional Brownian motion. An analysis is also made of the physical interpretation of the results obtained with different limiting cases. Only the more well-

Card 1/2

UDC: 621.317.36:621.391.82

2



L 14067-66

ACC NR: AP6002406

known formulas in random function theory are used. It is noted in conclusion that an analogous problem was solved (by means of a very complicated procedure) by V. P. Zhukov (Dispersiya chisla nuley summy garmonicheskogo signala i uzkopolosnogo shuma. Radiotekhnika i elektronika, vol. 9, no. 3, 1964). Orig. art. has: 3 figures and 22 formulas.

SUB CODE: 09/ SUBM DATE: 15Jul64/ ORIG REF: 002

PC

Card 2/2

L 35017-65 KEO-2/EWT(d)/FHH/PSS-2/EWT(1)/EEC(a)/ENP(m)/FS(v)-3/EEC(j)/EEC(k)-2/  
EEC(r)/ENQ(v)/EWA(d)/EEC(c)-2/EEQ-2/EWA(c) Pa-4/Po-4/Pe-5/Pq-4/Pao-4/Pg-4/Ph-4/  
Pae-2/Pk-4/Pl-4 LJP(c) G/AST/BJ  
ACCESSION NR: AP5006165 6/0258/65/005/001/0155/0157

AUTHOR: Zakoteyeva, L. V. (Moscow); Polyachenko, V. V. (Moscow) 75B

TITLE: The optimum three-impulse deflection of a circular-orbit plane by applying thrust impulses when crossing nodal lines

SOURCE: Inzhenernyy zhurnal, v. 5, no. 1, 1965, 155-157

TOPIC TAGS: impulse maneuver, thrust impulse, orbital maneuver, orbit plane, orbit plane deflection 9

ABSTRACT: In a case involving circular-orbit-plane deflection with no change in the radius of the orbit, simple relationships can be derived for a three-impulse maneuver executed under conditions of optimum characteristic velocity. The first tangential impulse is applied as the vehicle crosses the nodal line of the initial and final orbits. This impulse puts the vehicle into an elliptic transition orbit with the perigee positioned on the initial circular orbit. The second impulse, which deflects the transition-orbit plane at the required angle without changing other orbital parameters, is applied at the apogee of the transition orbit. The third, a tangential impulse positioned in the plane of the deflected elliptical orbit, is applied at the perigee of the transition ellipse positioned likewise on

Cord 1/2

L 35017-65

ACCESSION NR: AP5006165

the line between the nodes of the initial and final orbits. This impulse shifts the vehicle into a circular orbit having a radius equivalent to that of the initial orbit but deflected from the latter at the required angle. Orig. art. has: 3 figures and 10 formulas. [VM]

ASSOCIATION: none

SUBMITTED: 03Dec63

NO REF SOV: 000

ENCL: 00

SUB CODE: SV, NG

OTHER: 004

ATD PRESS: 3215

Card 2/2

ACCESSION NR: AP4040531

8/0074/64/033/006/0732/0747

AUTHOR: Novikov, G. I.; Polyachenok, O. G.

TITLE: Halides of the rare earth elements at a lower oxidation state

SOURCE: Uspekhi khimii, v. 33, no. 6, 1964, 732-747

TOPIC TAGS: literature review, survey, rare earth element, rare earth metal compound, divalent rare earth compound, rare earth dihalide, rare earth trihalide, metallothermal reduction, hydrogenation, vacuum dissociation, divalent rare earth oxychloride, divalent rare earth oxide, divalent rare earth chalcogenide, divalent rare earth sesquioxide, divalent rare earth telluride, divalent rare earth sulfide, physical property, physical chemical property, calorimetry, heat of formation, enthalpy of formation, phase diagram, saturated vapor pressure, electric conductivity, density, dissociation, free energy, entropy, rare earth dichloride, rare earth difluoride.

ABSTRACT: This literature review is directed to the rare earth elements in the divalent state, particularly to their halogen compounds which must occur as intermediates in the production of the rare earth metals during the electrolysis or

Card

1/3

ACCESSION NR: AP4040531

metallothermal reduction of the trihalides. Knowledge of the properties of the halides would help establish optimum process conditions and reduce electrolytic losses. It is thought that the differences in the stabilities in the lower degree of oxidation might be utilized in the separation of the elements. This summary includes a short outline of the chemistry of the compounds of the rare earth elements in the lower oxidation state, the properties and the synthesis of the rare earth dihalides (hydrogenation, vacuum distillation, metallothermal reduction including reaction with the corresponding rare earth metal, of the rare earth trihalides) and of the oxychlorides, oxides, and chalcogenides (sulfides, selenides, tellurides). Particular attention is given to the physical and physical-chemical studies on the rare earth dichlorides. Also discussed are the calorimetry of the dichlorides and determinations of their heat and enthalpy of formation, phase diagrams, saturated vapor pressures, electric conductivities and densities of the rare earth trichloride-rare earth metal systems, the dissociation of Sm, Eu, and Yb trichlorides:  $\text{LnCl}_3(\text{liq.}) \rightleftharpoons \text{LnCl}_2(\text{liq.}) + \frac{1}{2}\text{Cl}_2(\text{gas})$  and their free energy, heat of formation and entropy. Summarizing the possibility of the existence of rare earth dihalides, the authors conclude that stable  $\text{PaCl}_2$  and  $\text{TuCl}_2$  should be obtainable in addition to the known Nd, Sm, Er, Yb and Sc dichlorides, and the less stable  $\text{HoCl}_2$  and  $\text{ErCl}_2$  should also be obtainable in addition to  $\text{PrCl}_2$ , but La, Ce,

Card

2/3

ACCESSION NR: AP4040531

Gd, Tb and Y dichlorides cannot exist in the solid state. Sm, Eu and Yb difluorides are the only stable ones; at high temperatures it may be possible to form intermediate compounds between  $\text{LnF}_2$  and  $\text{LnF}_3$  in the case of Sc, Tm and Pr; other lower oxidation state rare earth fluorides are not probable. Orig. art. has: 1 table and 10 equations.

ASSOCIATION: Leningradskiy gos. universitet im. A. A. Zhdanova Khimicheskiy fakul'tet (Leningrad State University, Chemical

SUBMITTED: 00

ENCL: 00

SUB CODE: IC

NO REF SOV: 028

OTHER: 058

Card

3/3

NOVIKOV, G.I.; POLYACHENOK, O.G.

Rare-earth halides of low degree of oxidation. Usp. khim. 33  
no.6:732-747 Je '64. (MIRA 17:8)

1. Leningradskiy gosudarstvennyy universitet imeni Zhdanova,  
khimicheskiy fakul'tet.

ACCESSION NR: AP4020180

S/0078/64/009/004/0773/0777

AUTHOR: Polyachenok, O. G.; Novikov, G. L.

TITLE: Dissociation pressures of samarium, europium and ytterbium trichlorides

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 4, 1964, 773-777

TOPIC TAGS: samarium trichloride, europium trichloride, ytterbium trichloride, dissociation pressure, thermodynamic characteristic, static method, zero manometer, dissociation constant, heat of formation, entropy of formation, hydrogen reduction, samarium dichloride, europium dichloride, ytterbium dichloride, solid trichloride, liquid trichloride, solid dichloride, liquid dichloride

ABSTRACT: The dissociation pressures of molten  $\text{SmCl}_3$ ,  $\text{EuCl}_3$ ,  $\text{YbCl}_3$  ( $\text{LnCl}_3\text{liq.} \rightleftharpoons \text{LnCl}_2\text{liq.} + 1/2\text{Cl}_2$ ) were measured, and from these the thermodynamic characteristics for these rare earth di- and trichlorides were calculated. The chlorine pressures at temperatures up to 1000C were measured by the static method with a quartz-membrane zero manometer (G. L. Novikov, A. V. Suvorov).

Card 1/3



ACCESSION NR: AP4029180

Zavodsk. laboratoriya, 25, 750 (1959)). The dissociation constants for  $\text{SmCl}_3$  and  $\text{YbCl}_3$  were calculated according to the equation:  $K = \frac{2V}{RT} \cdot \frac{P_{\text{Cl}_2}}{T}$  and of  $\text{EuCl}_3$ , in which chlorine formation is much greater, by the equation:  $K = \frac{2VP_{\text{Cl}_2}}{RT - 2P_{\text{Cl}_2}V}$

From these data the standard heat and entropy of formation of the Sm, Eu and Yb di- and trichlorides were calculated. The data agree with literature values. Calculations were also carried out for the equilibrium in the dissociation of the solid trichlorides according to the equation:  $\text{LnCl}_3(\text{solid}) \rightleftharpoons \text{LnCl}_2(\text{solid}) + 1/2\text{Cl}_2$  and for the reduction of the trichlorides with hydrogen:  $\text{LnCl}_3 + 1/2\text{H}_2 \rightleftharpoons \text{LnCl}_2 + \text{HCl}$ . The equilibrium chlorine pressures over the molten trichlorides at 1100-1400 C were determined:

$$\text{SmCl}_3, \lg P_{\text{Cl}_2}, \text{ mm. Hg} = 41,82 - \frac{17450}{T} - 9,061 \lg T$$

$$\text{EuCl}_3, \lg P_{\text{Cl}_2}, \text{ mm. Hg} = 41,79 - \frac{17300}{T} - 9,061 \lg T$$

$$\text{YbCl}_3, \lg P_{\text{Cl}_2}, \text{ mm. Hg} = 41,65 - \frac{16300}{T} - 9,061 \lg T$$

Card 2/3

ACCESSION NR: AP4029180

Orig. art. has: 3 tables and 5 formulas

ASSOCIATION: Leningradskiy gosudarstvennyy universitet Khimicheskiy fakul'tet (Leningrad State University, Chemistry Faculty)

SUBMITTED: 08Feb63

DATE ACQ: 29Apr64

ENCL: 00

SUB CODE: PH, CH

NO REF SOV: 004

OTHER: 006

Card 3/3

ACCESSION NR: AP4029196

S/0078/64/009/004/1017/1019

AUTHOR: Frid, S. A.; Polyachenok, O. G.; Novikov, G. I.

TITLE: Vapor pressure and vapor composition in the potassium chloridesamarium, ytterbium, calcium and strontium dichloride systems

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 4, 1964, 1017-1019

TOPIC TAGS: potassium chloride containing system, samarium dichloride containing system, ytterbium dichloride containing system, calcium dichloride containing system, strontium dichloride containing system, vapor pressure, vapor composition, KCl-SmCl<sub>2</sub> sub 2 system, KCl-YbCl<sub>2</sub> sub 2 system, KCl-CaCl<sub>2</sub> sub 2 system, KCl-SrCl<sub>2</sub> sub 2 system

ABSTRACT: The saturated vapor pressures in the KCl-SmCl<sub>2</sub>, KCl-YbCl<sub>2</sub>, KCl-CaCl<sub>2</sub> and KCl-SrCl<sub>2</sub> systems, and the gross vapor composition of the latter two systems were determined. The saturated vapor pressures were obtained by the "boiling point" method at 1050 and 1150 C above melts containing 25, 50 and 75 mol.% KCl (figs. a, b). The data show the systems deviate from Raoult's law only slightly, and that the KCl-CaCl<sub>2</sub> and KCl-YbCl<sub>2</sub>, and the KCl-SrCl<sub>2</sub> and KCl-SmCl<sub>2</sub> systems are

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ACCESSION NR: AP4029196

similar. The gross composition of the vapor (the potassium and the alkaline earth content) at 1050 and 1150 C was determined by flame photometry. The data show the alkaline earth dichloride potassium chloride ratio is independent of temperature. This ratio ( $MCl_2/KCl$ ) does decrease with increase in initial KCl content in the melt, and decreases in going from Ca to Sr. Orig. art. has: 3 tables, 1 figure.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova  
Khimicheskii fakul'tet (Leningrad State University, Chemistry Faculty)

SUBMITTED: 30Sep63

DATE ACQ: 29Apr64

ENCL: 01

SUB CODE: GP, GC

NO REF SOV: 008

OTHER: 003

Card 2/3

ACCESSION NR: A74029196

ENCLOSURE: 01

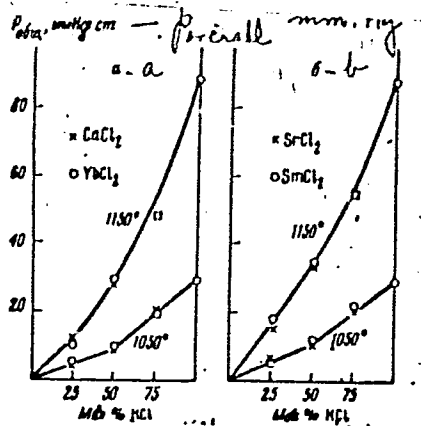


Fig. Saturated vapor pressure-composition diagram in the systems:  
 a--KCl-CaCl<sub>2</sub> and KCl-YbCl<sub>2</sub>; b--KCl-SrCl<sub>2</sub> and KCl-SmCl<sub>2</sub>.

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POLYACHENOK, O.G.; NOVIKOV, G.I.

Saturated vapor pressure of  $\text{SmCl}_2$ ,  $\text{EuCl}_2$ ,  $\text{YbCl}_2$ . Zhur. neorg.  
khim. 8 no.12:2631-2634 1963. (MIRA 17:4)

1. Leningradskiy gosudarstvennyy universitet, Khimicheskii fakul'tet.

KIRZHITS, D.A.; POLYACHENKO, V.L.

Possibility of macroscopic manifestations of the violation of  
microscopic causality. Zhur. eksp. i teor. fiz. 46 no.2:755-  
763 F '64. (MIRA 17:9)

1. Fizicheskiy institut imeni Lebedeva AN SSSR.

SHVETS, V.I.; BOGOSLOVSKIY, N.A.; POLYACHENKO, V.M.; VOLKOVA, L.V.;  
SAMOKHVALOV, G.I.; PREOBRAZHENSKIY, N.A.

Synthesis of phospholipides containing residues of higher aliphatic  
polyene acids. Dokl. AN SSSR 140 no.4:851-854 0 '61. (MIRA 14:9)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V.  
Lomonosova i Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy  
institut. Predstavleno akademikom A.N.Nesmeyanovym.  
(Phosphatides) (Olefins)



ZAKOTSEYEVA, I.V. (Moskva); POLYACHENKO, V.V. (Moskva)

Optimum three-impulse turn of the circular-orbit plane with  
addition of thrust impulses in raising the nodal line. Inzh.  
zhur. 5 no.14156-157 '65. (MIRA 18 4

L 13049-63

ENP(1)/ENT(m)/BDS AFFTC/ASD JD/JG

ACCESSION NR: AP3003470

8/0078/63/008/007/1567/1573

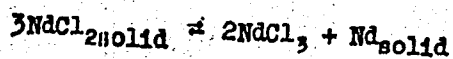
AUTHOR: Polyachenok, O. G.; Novikov, G. I.

TITLE: Stability of lower rare-earth chlorides

SOURCE: Zhurnal neorganicheskoy khimii, v. 8, no. 7, 1567-1573

TOPIC TAGS: rare earth, rare-earth chloride, rare-earth enthalpy, rare-earth disproportionation, rare-earth reduction, Born-Haber cycle, lanthanide chloride, NdCl sub 3, NdCl sub 2, NdCl

ABSTRACT: The thermochemical data required for the determination of the stability of lower rare-earth chlorides have been obtained. The heats of formation of NdCl<sub>2</sub> and NdCl<sub>3</sub> were determined calorimetrically to be -163.2 and -246.5 kcal/mol, respectively. From these heats of formation the enthalpy change in the disproportionation of NdCl<sub>2</sub> by the reaction:



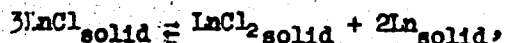
was calculated to be -3.4 kcal, and  $\Delta S^\circ$ ,  $15 \pm 1$  EU. The temperature of non-variant equilibrium of the disproportionation was found to be -46°C, below which

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L 13049-63

ACCESSION NR: AP3003470

NdCl<sub>2</sub> is thermodynamically unstable and can only exist in the frozen state. The heats of formation of lanthanide (Ln) dichlorides in the solid state were calculated by means of the Born-Haber cycle and are given in Table 1 of the Enclosure. The data in Table 1 suggest that the heat of sublimation is the main factor which determines the heats of formation of the lower rare-earth chlorides. On the basis of the data given in Table 2, for LnCl<sub>2</sub> disproportionation by the reaction:



the following qualitative conclusions concerning the stability of the rare-earth dichlorides were made: 1) In addition to the known SmCl<sub>2</sub>, EuCl<sub>2</sub>, and YbCl<sub>2</sub>, the stable dichlorides PmCl<sub>2</sub> and TmCl<sub>2</sub> can be obtained. 2) Among the less stable dichlorides, in addition to the known NdCl<sub>2</sub> and PrCl<sub>2</sub>, it is apparently possible to obtain in the solid state DyCl<sub>2</sub> and HoCl<sub>2</sub>, which are stable at elevated temperatures only, and ErCl<sub>2</sub>, which is apparently stable at room temperature. 3) Formation of LaCl<sub>2</sub>, CeCl<sub>2</sub>, GdCl<sub>2</sub>, and TbCl<sub>2</sub> cannot be expected in the solid state or in the melt. Calculation of the equilibrium constants for hydrogen reduction of LnCl<sub>3</sub> to LnCl<sub>2</sub> revealed the possibility of complete reduction of SmCl<sub>3</sub>, EuCl<sub>3</sub>, and YbCl<sub>3</sub>, but of only partial reduction in the case of Nd, Pm, Dy, Ho, Er, or Tm. Calculation of heats of formation of LnCl by means of the Born-Haber cycle

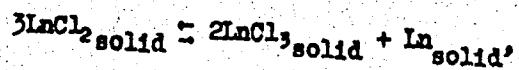
Card 2/63

- 18 (2/57) -

L 13049-63

ACCESSION NR: AP3003470

and of  $\Delta H^\circ$  and  $\Delta F^\circ$  in its disproportionation by the reaction:



was carried out; the results are given in Table 3. It was determined that the formation of monochlorides in the solid and molten states is negligible. Orig. art. has: 7 tables, 11 formulas, and 1 figure.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet, Khimicheskoy fakul'tet  
(Leningrad State University, Department of Chemistry)

SUBMITTED: 05Jun62

DATE ACQ: 02Aug63

ENCL: 03

SUB CODE: CH

NO REF SOV: 013

OTHER: 016

Card 3/63

POLYACHENOK, O.G.; NOVIKOV, G.I.

Evaporation of rare earth trichlorides. Zhur. neorg. khim. 8  
no.6:1526-1527 Je '63. (MIRA 16:6)

1. Leningradskiy gosudarstvennyy universitet, khimicheskiy  
fakul'tet.  
(Rare earth chlorides) (Evaporation)

POLYACHENOK, O.G.; NOVIKOV, G.I.

Stability of rare earth chlorides of lower valency. Zhur.  
neorg. khim. 8 no.7:1567-1573 J1 '63. (MIRA 16:7)

1. Leningradskiy gosudarstvennyy universitet, khimicheskiy  
fakul'tet.

(Rare earth chlorides)

POLYACHENOK, O.G.; NOVIKOV, G.I.

Systems  $\text{SmCl}_3$  - Sm and  $\text{YCl}_3$  - Y. Zhur. reorg. Khim. 2 no.22:2812-2819  
D '63.

System  $\text{ScCl}_3$  - Sc. Ibid.:2819-2821

(MIRA 17:9)

1. Leningradskiy gosudarstvennyy universitet, khimicheskiy  
fakul'tet.

L 18181-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JW/JG/JD  
 ACCESSION NR: AP3006833 S/0079/63/033/008/2797/2797

AUTHOR: Polyachenok, O. G.; Novikov, G. I.

TITLE: Investigation of dichlorides of rare-earth elements

SOURCE: Zhurnal obshchey khimii, v. 33, no. 8, 1963, 2797

TOPIC TAGS: rare earth metals, dichlorides, phase diagram, thermal analysis, preparation, solubility, bivalent ion formation, standard enthalpy of formation, neodymium,  $\text{NdCl}_3$ ,  $\text{NdCl}_2$ ,  $\text{PrCl}_2$ , chlorides, samarium,  $\text{SmCl}_3$ ,  $\text{SmCl}_2$ ,  $\text{EuCl}_2$ ,  $\text{EuCl}_3$ ,  $\text{YbCl}_2$ ,  $\text{YbCl}_3$ ,  $\text{ScCl}_2$ ,  $\text{ScCl}_3$ , scandium, yttrium,  $\text{LaCl}_3$ , lanthanum, praseodymium,  $\text{PrCl}_3$

ABSTRACT: In a study of rare earth dichlorides the phase diagrams of the  $\text{SmCl}_3\text{—Sm}$ ,  $\text{ScCl}_3\text{—Sc}$ , and  $\text{YCl}_3\text{—Y}$  systems have been obtained by thermal analysis. In the  $\text{SmCl}_3\text{—Sm}$  system a stable compound,  $\text{SmCl}_2$  (m.p. 359°C), and an intermediate compound,  $\text{SmCl}_3\text{—}4\text{SmCl}_2$  (decomposes on melting), were formed. Reaction of  $\text{SmCl}_3$  with metallic samarium is considered to be the best method for obtaining pure

Card 1/2



L 18181-63  
ACCESSION NR: AP3006833

SmCl<sub>2</sub>. Compounds EuCl<sub>2</sub> and YbCl<sub>2</sub> are readily obtained by reduction of the trichlorides with metallic zinc. Scandium<sup>11</sup>dichloride (ScCl<sub>2</sub>) melted at 806C with decomposition. In the ScCl<sub>3</sub>-Sc system the intermediate compound 2ScCl<sub>3</sub>.ScCl<sub>2</sub>, which decomposes on melting, was obtained. The solubility of yttrium<sup>11</sup>an YCl<sub>3</sub> was only 2 mol% at the eutectic temperature, 716C. Vapor pressure measurements for the LaCl<sub>3</sub>-La, PrCl<sub>3</sub>-Pr, NdCl<sub>3</sub>-Nd<sup>2</sup>YCl<sub>3</sub>-Y, and ScCl<sub>3</sub>-Sc systems show<sup>3</sup> that atomic dissolution<sup>3</sup> of La and Y occurs and that divalent ions of Pr<sup>2+</sup>, Nd<sup>2+</sup>, and Sc<sup>2+</sup> are formed in the melt. For the disproportionation of the dichloride to the trichloride and the metal, ΔH° was found to be 13 kcal/mole for NdCl<sub>2</sub> and 8 kcal/mole for PrCl<sub>2</sub>; in both cases ΔS° was equal to 3 eu (at an average temperature of 1250C). The standard enthalpy of formation was -163.2 kcal/mole for NdCl<sub>2</sub> and -246.5 kcal/mole for NdCl<sub>3</sub>. For solid PrCl<sub>2</sub> and ScCl<sub>2</sub> the enthalpy of formation was approximately -163 and -145 kcal/mole, respectively.

ASSOCIATION: none  
SUBMITTED: 22 Feb 63  
SUB CODE: CH  
Card 2/2

DATE ACQ: 30 Sep 63  
NO REF SOV: 000

ENCL: 00  
OTHER: 000

POLYACHENOK, O.G.; NOVIKOV, G.I.

Dissociation pressure of the trichlorides of samarium, europium,  
ytterbium. Zhur.neorg.khim. 9 no.4:773-777 Ap '64. (MIRA 17:4)

1. Leningradskiy gosudarstvennyy universitet, khimicheskiy  
fakul'tet.

FRID, S.A.; POLYACHENOK, O.G.; NOVIKOV, G.I.

Pressure and composition of vapor in the systems potassium  
chloride - dichlorides of samarium, ytterbium, calcium, and  
strontium. Zhur.neorg.khim. 9 no.4:1017-1019 Ap '64.  
(MIRA 17:4)

1. Leningradskiy gosudarstvennyy universitet imeni Zhdanova,  
khimicheskoy fakul'tet.

L 10645-63

EPF(c)/EWP(q)/EWT(m)/BDS--AFM/C/ASD--Pr-4--JM/JW/JD

S/0078/63/008/006/1526/1527

ACCESSION NR: AP3001226

63

AUTHOR: Polyachenok, O. G.; Novikov, G. I.

TITLE: Vaporization of the rare earth element trichlorides<sup>21</sup>

SOURCE: Zhurnal neorganicheskoy khimii, v. 8, no. 6, 1963, 1526-1527

TOPIC TAGS: vaporization, rare earth element trichlorides, LaCl sub 3, CeCl sub 3, PrCl sub 3, NdCl sub 3, ErCl sub 3, entropy, enthalpy

ABSTRACT: The boiling temperature, vapor pressure, entropy and enthalpy (heat content) were determined (experimentally) for La, Ce, Pr, Nd and Er trichlorides. They were calculated for all of the other rare earth trichlorides. Orig. art. has: 1 table and 1 equation.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet, Khimicheskiy fakul'tet (Leningrad State University, Department of Chemistry)

SUBMITTED: 12Nov62

DATE ACQD: 01Jul63

ENCL: 00

SUB CODE: 00

NO REF SOV: 003

OTHER: 002

kes  
Card 1/1

POLYACHENOK, O.G.

Enthalpies of the formation of lanthanum and praseodymium  
fluorides. Zhur.neorg.khim. 10 no.8:1939-1940 Ag '65.  
(MIRA 19:1)

1. Submitted September 19, 1964.

YAROSH, A.YA.; POLYAKOV, A.B.

Results of verifying by boring the authenticity of a structural map plotted on the basis of gravity observations over a brown coal deposit. Trudy Sver.gor.inst. no.34:99-108 '59. (MIRA 13:5)  
(Geology, Structural--Maps)  
(Gravity)  
(Prospecting--Geophysical methods)

POLYAKOV, A.B.

Interpretation of gravity anomalies in case of varying densities  
of surrounding rocks. Trudy Sver.gor.inst. no.34:124-152 '59.  
(MIRA 13:5)

(Prospecting--Geophysical methods)  
(Gravity)

PETCHENKO, A.I., prof.; POLUYEKTOVA, L.M.

Prolapse of the umbilical cord. Vop.okh.mat. i det. 4  
no.2:46-49 Mr-Apr '59. (MIRA 12:5)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. A.I.  
Petchenko) Leningradskogo pediatricheskogo meditsinskogo  
instituta (dir.-prof. N.T.Shutova).  
(UMBILICUS) (PREGNANCY, COMPLICATIONS OF)



GELEVERI, V.I.; POLUYHKTOVA, I.A.; SHOSTAK, I.P.

Investigating drawing conditions and properties of wire made of  
oxygen-blasted converter steel. Biul. TSNIICM no. 10:46-48 '58.

1. Nizhnedneprovskiy zavod metallicheskih izdeliy.  
(Wire drawing)

POLUYKO, I.Z.

Cutting age. Izv.Kar.1 Kol'.fil.AN SSSR no.3:127-136 '59.  
(MIRA 13:4)

1.Otdel ekonomiki Karel'skogo filiala AN SSSR.  
(Forest management)

POLUZADOVA, O. B.

"Some Ecological-Physiological Characteristics of the Arctic  
and Desert Fox Species: Alopex Lagopus L. and Vulpes  
Corsac L.," Dok. AN, 54, No. 4, 1946. Ecology Lab., Moscow  
Zoological Gardens, -1946-.